

# **How Increasing Memory Problems Impact Daily Life -- *Recent CDC Findings from the 2015 BRFSS Cognitive Module***

**Jan. 6, 2017 Webinar**



# Poll

## **What is your primary interest?**

1. BRFSS or surveillance
2. Public health
3. Health care
4. Alzheimer's disease or other dementias
5. Other

# Speakers

## **Centers for Disease Control and Prevention**

**Lisa C. McGuire**, PhD, Lead, Healthy Aging Program

**Erin Bouldin**, PhD, MPH, Assistant Professor, Appalachian State Univ.

**Valerie J. Edwards**, PhD, Senior Staff Fellow, Healthy Aging Program

**Christopher A. Taylor**, PhD, Epidemiologist, Healthy Aging Program

## **Colorado Dept. of Public Health and Environment**

**Sallie Thoreson**, Injury Prevention Coordinator

*Moderator:* Molly French, MS,  
Director of Public Health, Alzheimer's Association

# *The Healthy Brain Initiative*

Began in 2005 by CDC and the Alzheimer's Association to:

- Mobilize a population-based response to growing burden of Alzheimer's, other dementias.
- Foster a multi-faceted approach.
- Generate public-private partnerships to alter outcomes.

*Funding for this webinar was made possible in part by the Centers for Disease Control and Prevention. The views expressed in written materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.*

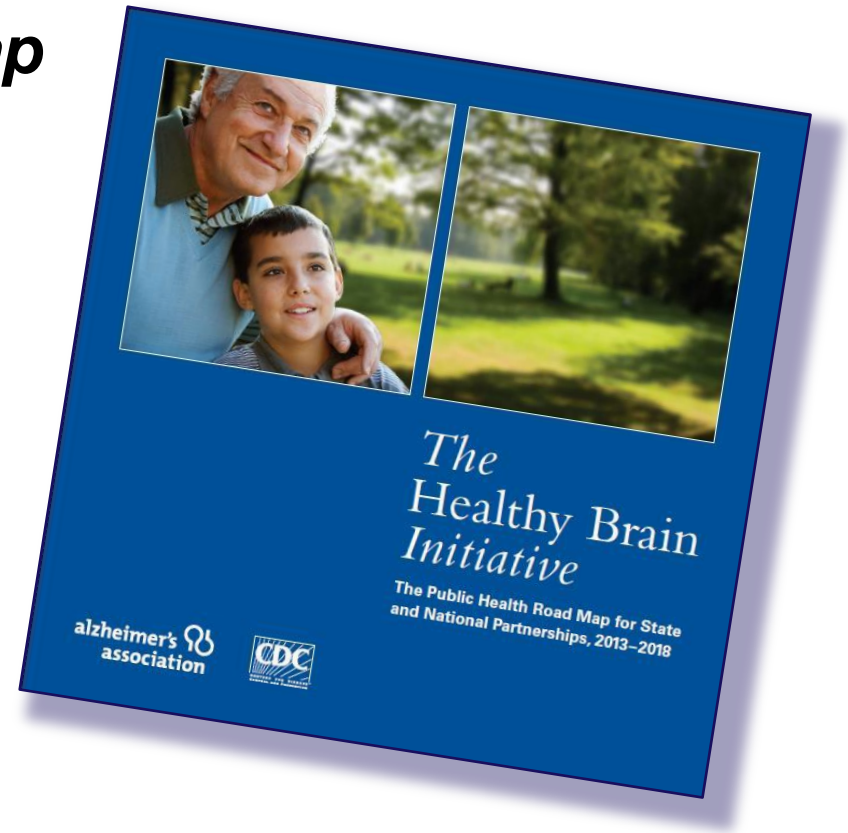
# *Public Health Road Map*

## ***The Public Health Road Map for State and National Partnerships 2013-2018***

**35** action items for public health officials to:

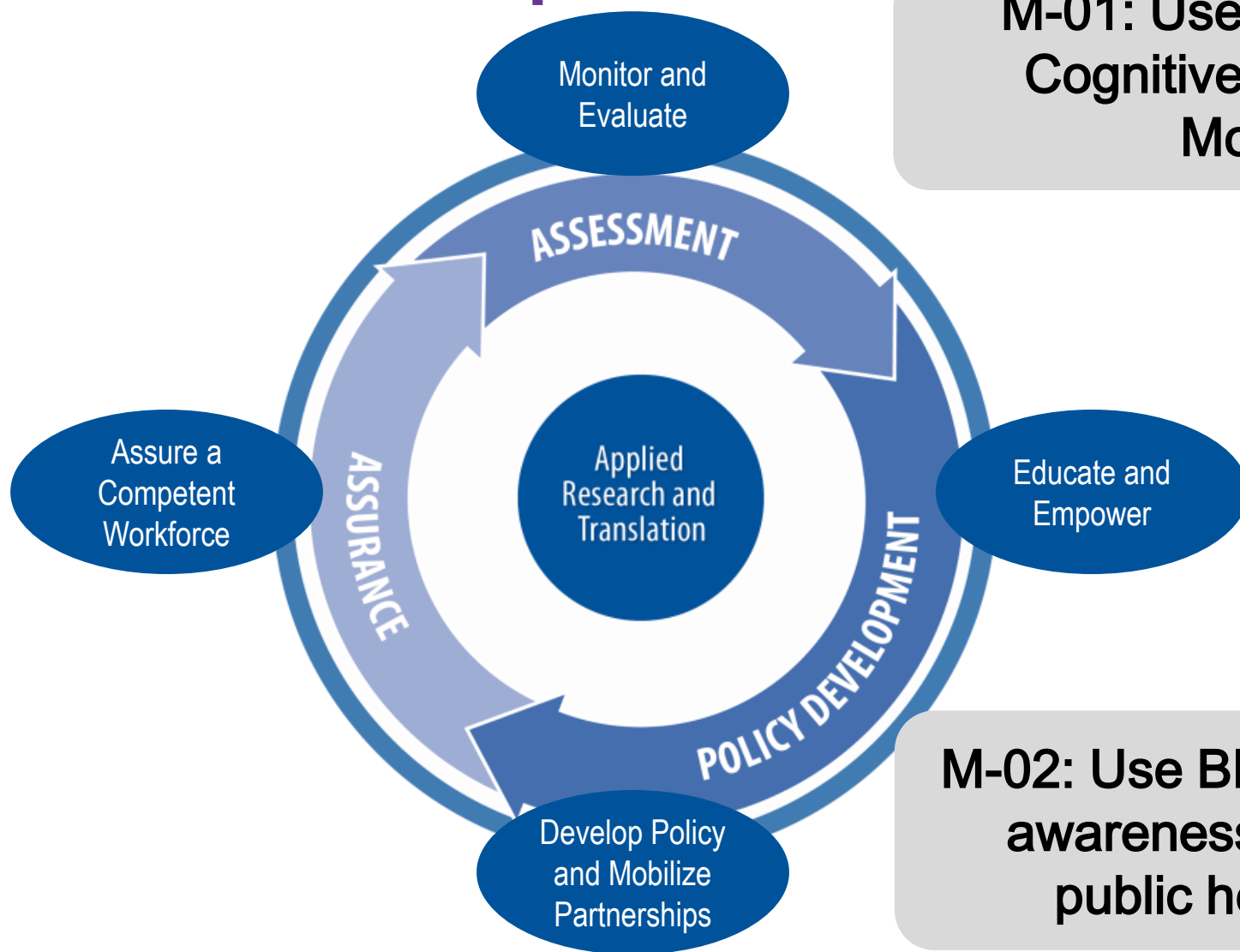
- Promote cognitive functioning
- Address cognitive impairment and Alzheimer's disease
- Meet the needs of caregivers

[alz.org/publichealth/road-map.asp](http://alz.org/publichealth/road-map.asp)



Jointly developed by the  
Centers for Disease Control and Prevention (CDC)  
and the Alzheimer's Association in 2013.

# The Road Map



**M-01: Use the BRFSS  
Cognitive & Caregiver  
Modules**

**M-02: Use BRFSS data for  
awareness and support  
public health action**

# Why We Need BRFSS Data

- Subjective cognitive decline (SCD) is a good predictor of future Alzheimer's and other dementias
- Limited state-based data on SCD
- SCD data from BRFSS helps us understand burden, at-risk populations, trends, and more
- Essential to informing policy, systems, and environmental change

# Behavioral Risk Factor Surveillance System (BRFSS) 2015 Cognitive Decline Module: Topline Results

**Lisa C McGuire, PhD**

Lead, Alzheimer's Disease and Healthy Aging Program  
Division of Population Health  
National Center for Chronic Disease Prevention and Health Promotion  
Centers for Disease Control and Prevention

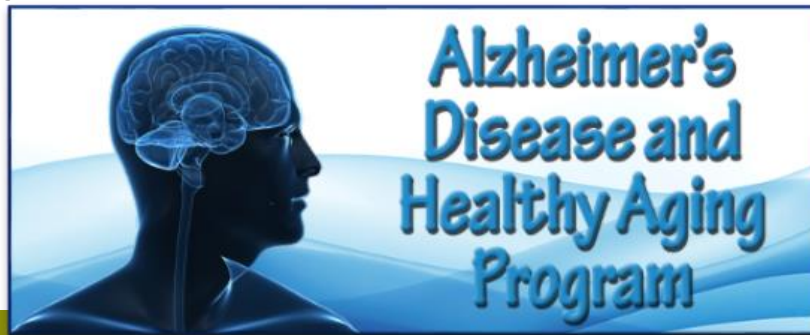
Memory Loss and the Public Health Burden: Results from the 2015 BRFSS Cognitive Module  
Webinar; December 14, 2016



# ***Alzheimer's Disease and Healthy Aging Program***

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- Promote the health and quality of life of older Americans
  - Focus on adults age 50 or older
- Collect, analyze and disseminate data to guide public health action
- Translate research into practice
- Engage with states, partners and communities to identify and implement effective strategies to promote health and prevent disease in older adults



# ***Behavioral Risk Factor Surveillance System (BRFSS)***

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- BRFSS is a partnership between CDC and state health departments to produce data that benefits states, territories, localities and public health professionals.
- Includes 57 state/territorial level telephone surveys on health status, health risk behaviors and chronic conditions.
- The world's largest continuously conducted telephone health surveillance system.
- The only source of public health behavior and risk factor data at state/territorial level for most states/territories.
- Non-institutionalized adults age 18+.
- Approximately 450,000 respondents in 2015.
- Data and more information: **<http://www.cdc.gov/brfss/>**

# *The Four Components of BRFSS*

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1. *Core Survey*

Must Be Used in all States and Territories.

2. *Survey Modules*

Sets of Questions about One Topic. Proposed by CDC Programs and other Agencies.

3. *State-Added Questions*

Developed/added by Each State.

4. *Special Project Additions*

Proposed on an As-Needed Basis, with Dedicated Funding (e.g., Asthma call-back, H1N1).



# ***Subjective Cognitive Decline (SCD)***

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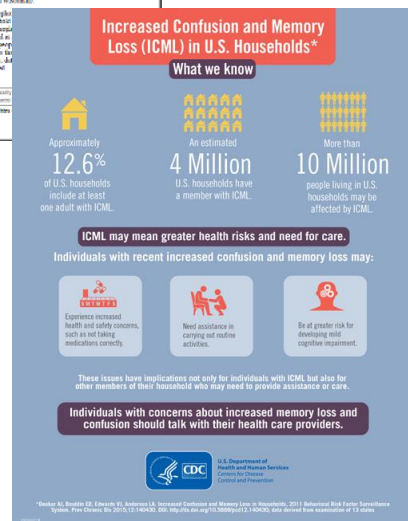
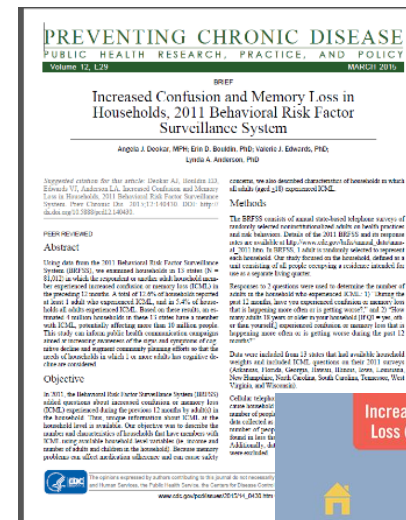
- Confusion or memory loss
- Happening more often or getting worse
- Self-report
- Earliest warning signs of dementia, including Alzheimer's disease
- Indicates higher risk
- Does not measure the prevalence of any condition



# Cognitive Decline Optional BRFSS Module

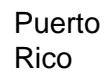
## Cognitive

- Worsening memory problems
- Potential difficulties it may cause
- Discussions with health care professionals
- Revised in 2015
- 35 States in 2015



States that included the Cognitive Module in the 2015 BRFSS survey

States that included the Cognitive Module in the 2015 BRFSS survey



■ **State/Territory included the Cognitive Module (35)**

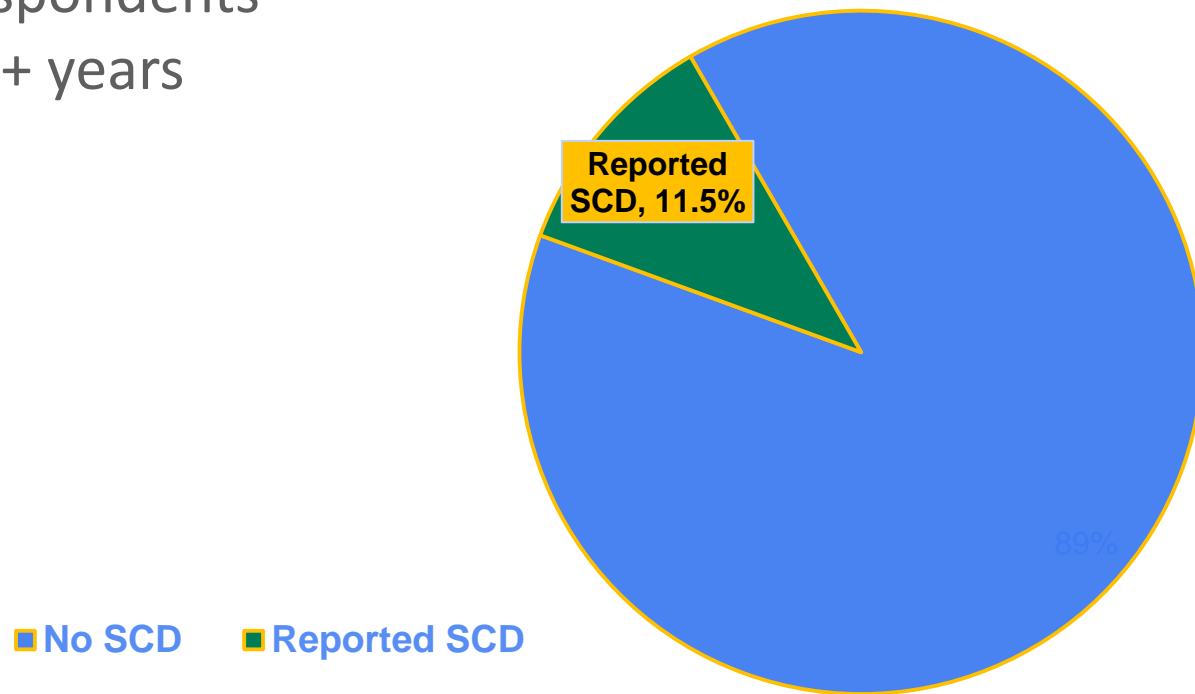
☐ **State/Territory did not include the Cognitive Module (17)**

Updated March 2015

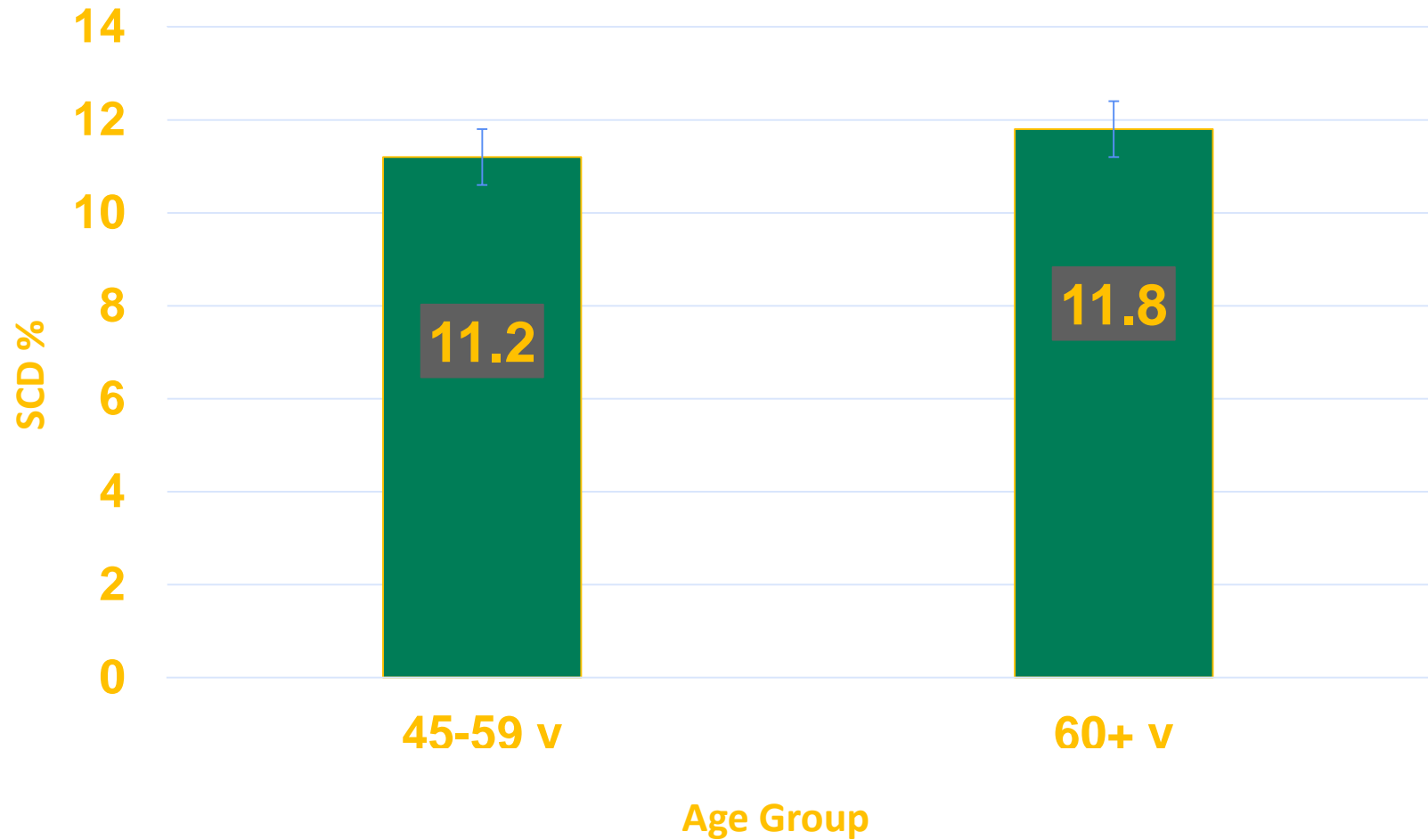
# *Population Characteristics*

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- 150,370  
respondents  
45+ years



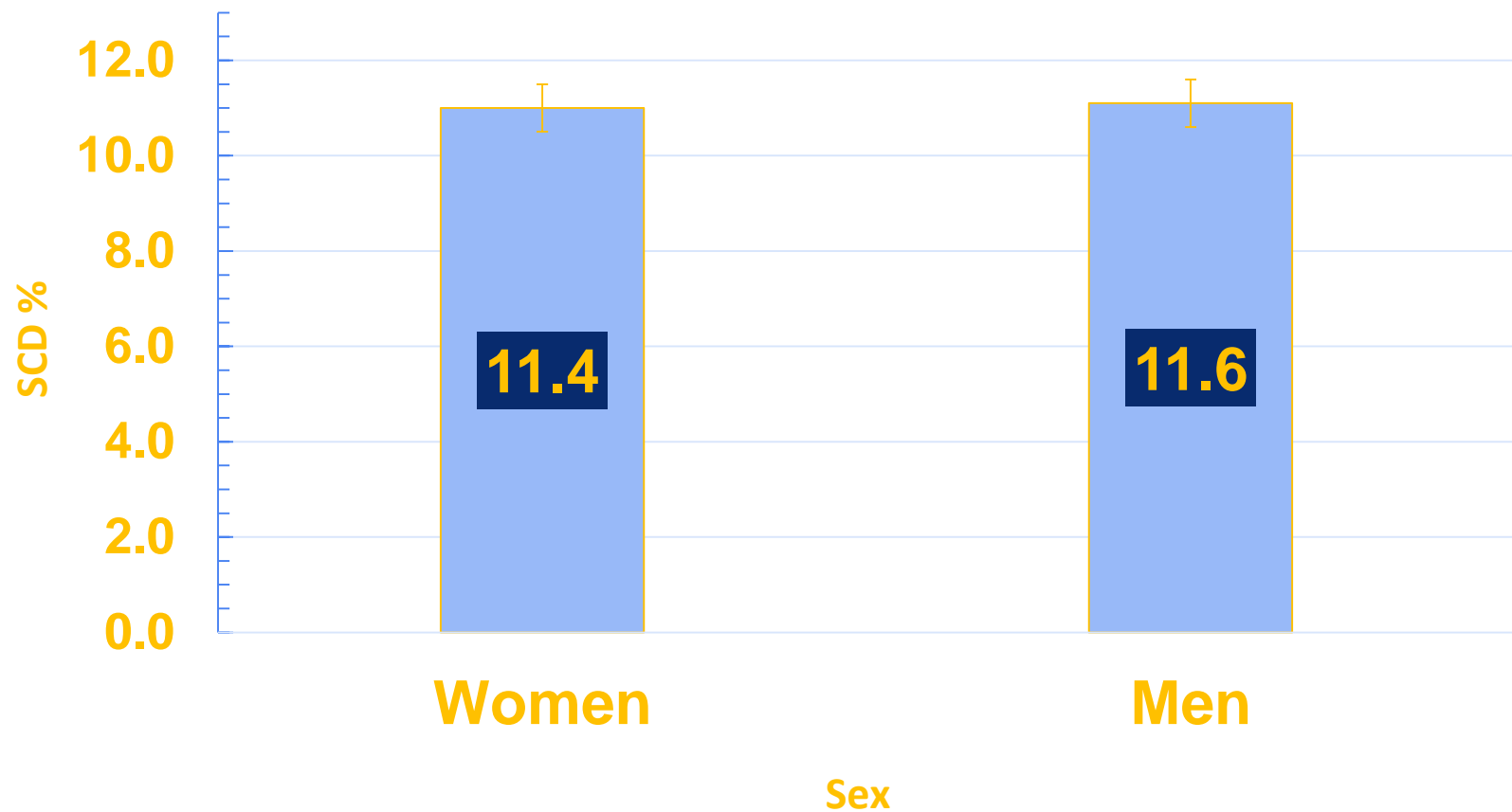
## *SCD by Age Group*





## *SCD by Sex*

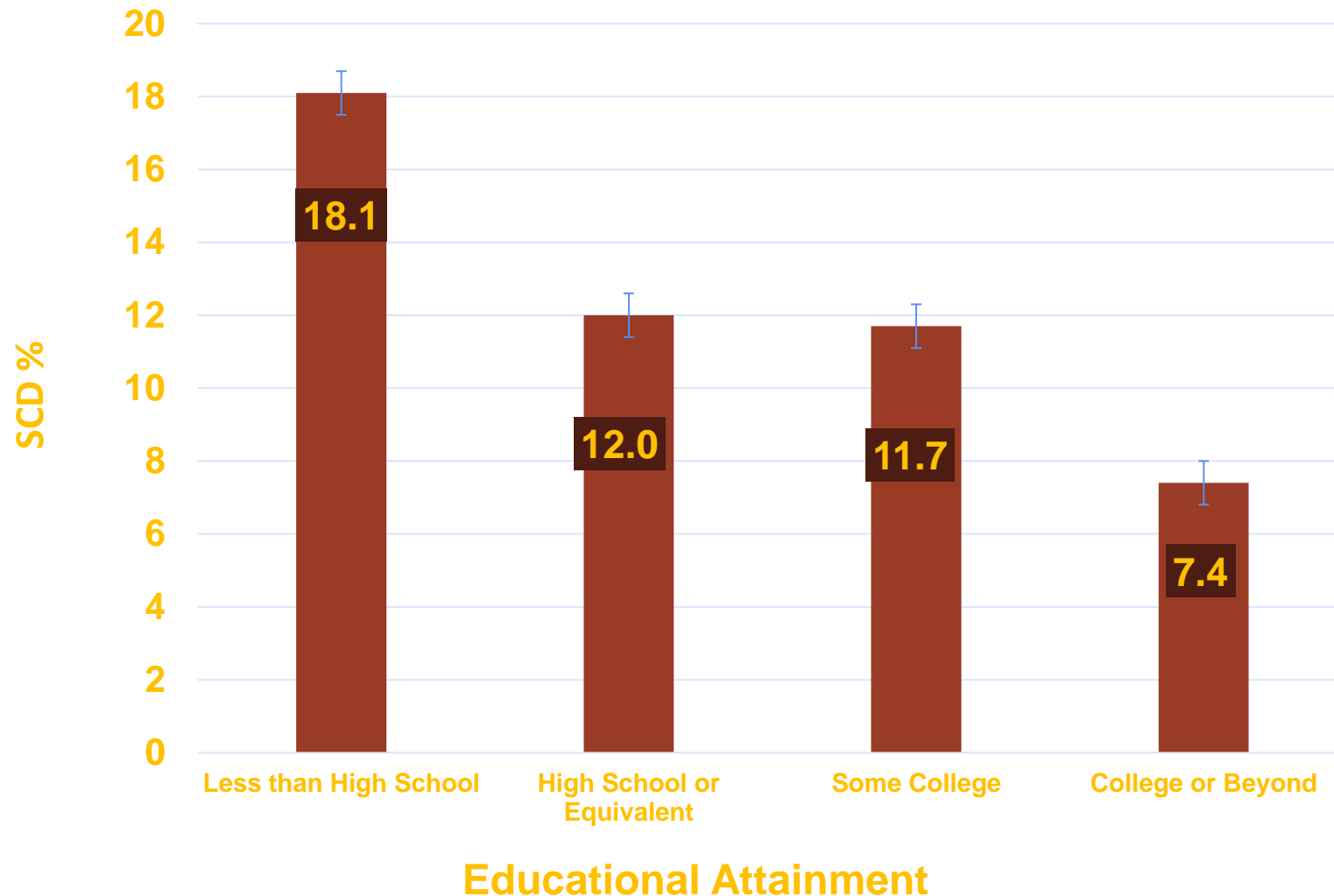
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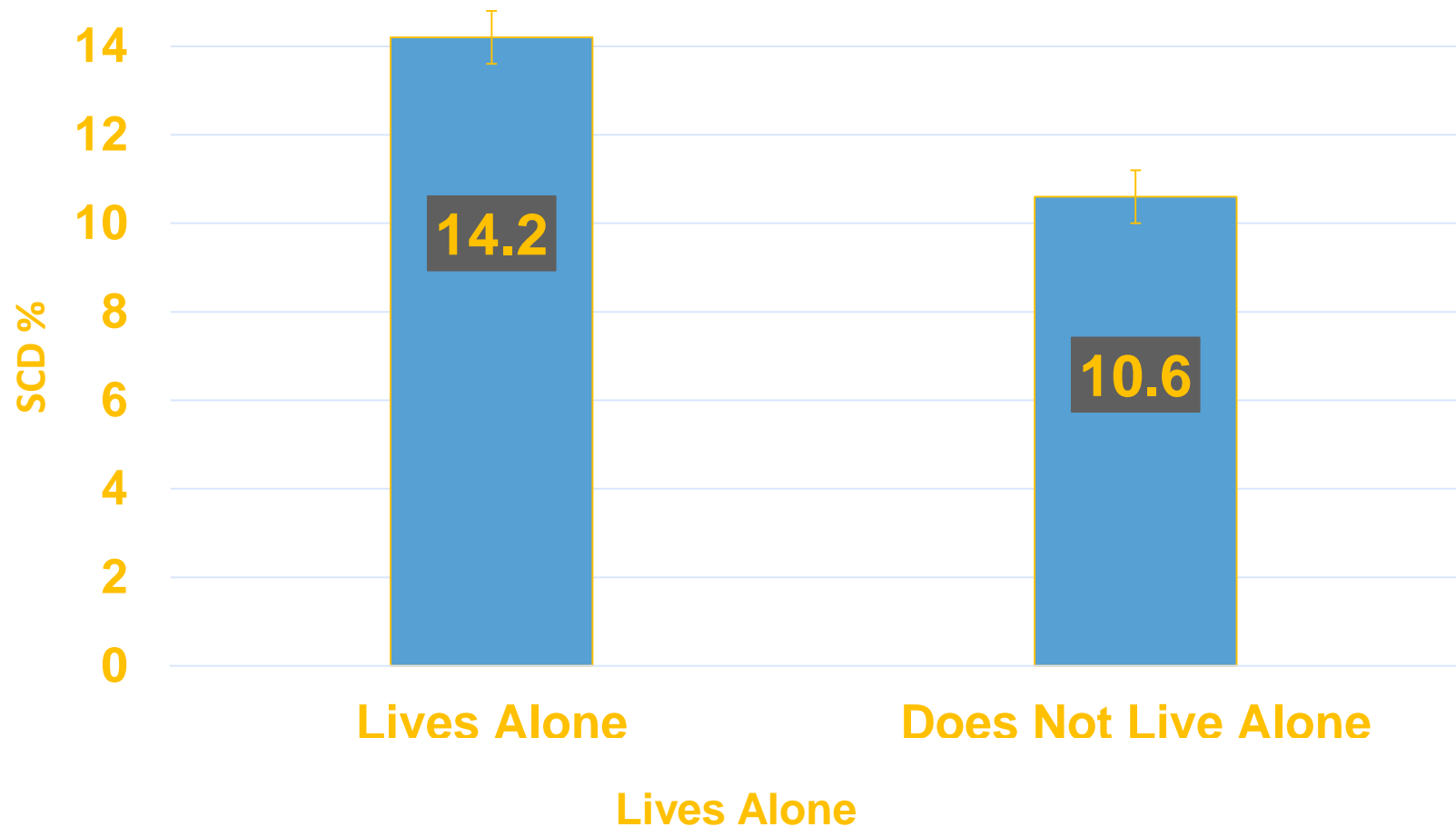
# *SCD by Race/Ethnicity*



# ***SCD by Level Educational Attainment***



## *SCD by Lives Alone*



# ***Findings and Public Health Implications***

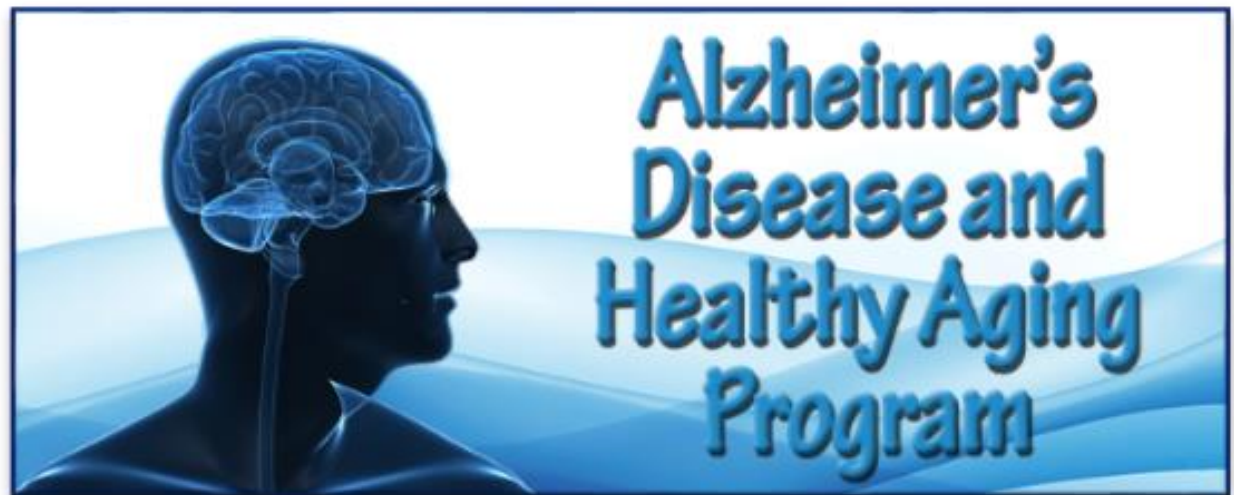
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- 11.5% reported SCD, up slightly from 11.0% in 2013
- Persons with lower levels of education report more SCD
- More people who reported SCD live alone than live with others



**Dr. Lisa McGuire**  
**[LMcGuire@cdc.gov](mailto:LMcGuire@cdc.gov)**

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)



The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

# Subjective Cognitive Decline (SCD), Chronic Conditions, and Health Care

**Erin Bouldin, PhD, MPH**

Assistant Professor  
Department of Health and Exercise Science  
Appalachian State University

Memory Loss and the Public Health Burden: Results from the 2015 BRFSS  
Cognitive Module Webinar; December 14, 2016

# Background

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- **Physical health and cognitive health may be correlated**
  - Previous studies have found higher levels of cognitive decline/impairment among people with chronic conditions.
- **Potential reasons:**
  - Common underlying conditions, e.g., vascular disease
  - Common risk factors, e.g., low educational attainment, physical inactivity
- **No population-based data using a broad definition of cognitive decline among middle-aged and older adults**



# Self-care for Chronic Conditions

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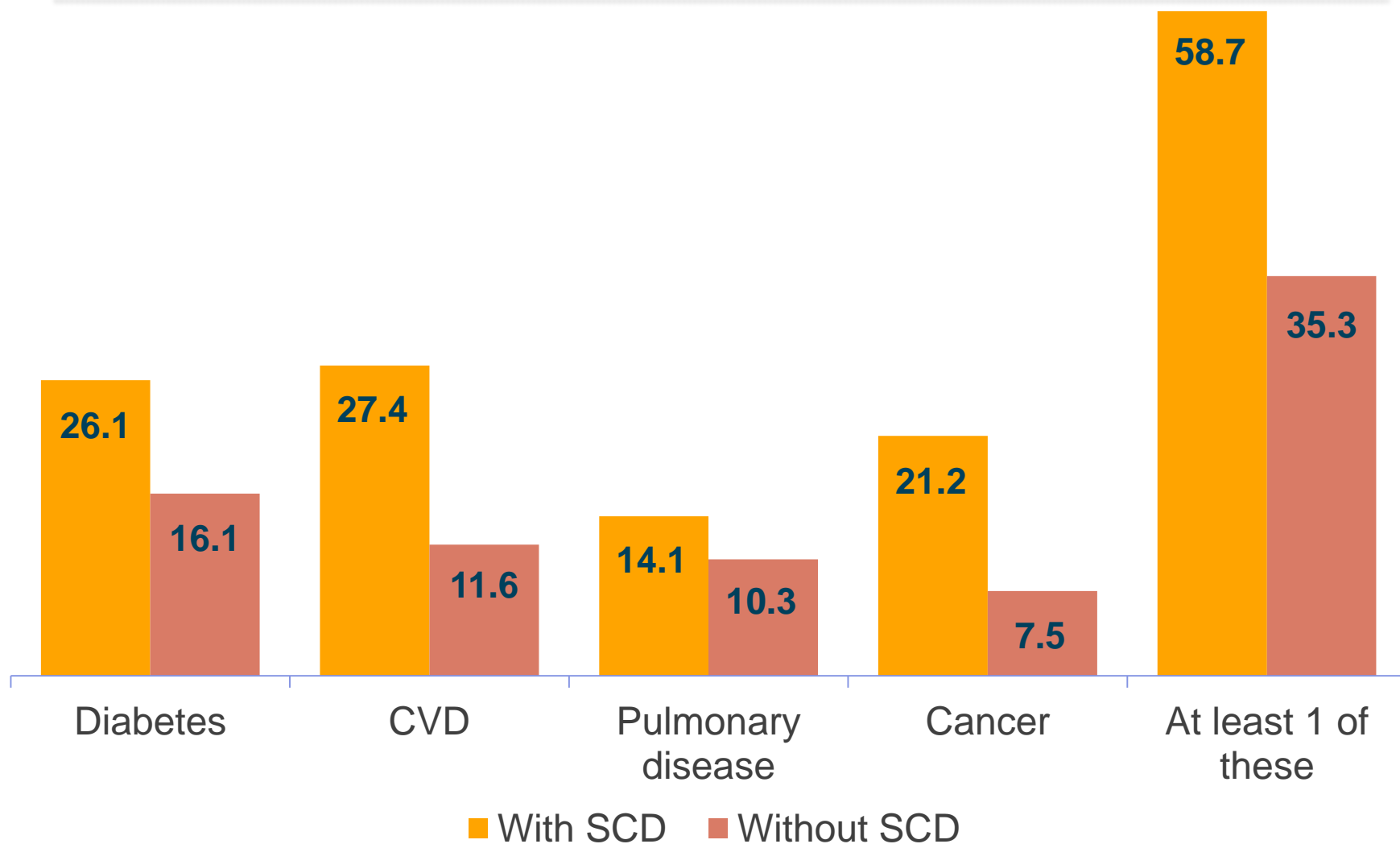
- **Set of activities that must be regularly undertaken to prevent exacerbation**
  - Taking medications as prescribed
  - Monitoring and reporting symptoms and measures (e.g., blood glucose, blood pressure)
  - Eating a specific diet
  - Following a physical activity regimen
  - Scheduling and attending regular appointments
- **All of these activities may be more difficult for people experiencing cognitive decline**

# BRFSS Chronic Condition Definitions

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- **Diabetes:** Ever diagnosed, except during pregnancy
  - Excludes “borderline”
- **Cardiovascular disease:** Ever diagnosed with angina, coronary heart disease, myocardial infarction or stroke
- **Pulmonary disease:** Ever diagnosed with chronic obstructive pulmonary disease, emphysema, or chronic bronchitis
- **Cancer:** Ever diagnosed
  - Excludes skin cancer

# Age-adjusted Prevalence of Chronic Conditions, 2015



P<0.001 comparing people with SCD to those without SCD for all conditions

# The Value of Early Diagnosis and Disclosure

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Leads to  
**BETTER  
OUTCOMES**  
for individuals and  
**CAREGIVERS**

Access Available Treatments

Build Care Team

Participate in Clinical Trials

Access Support Services

Better Manage Medications

Receive Counseling

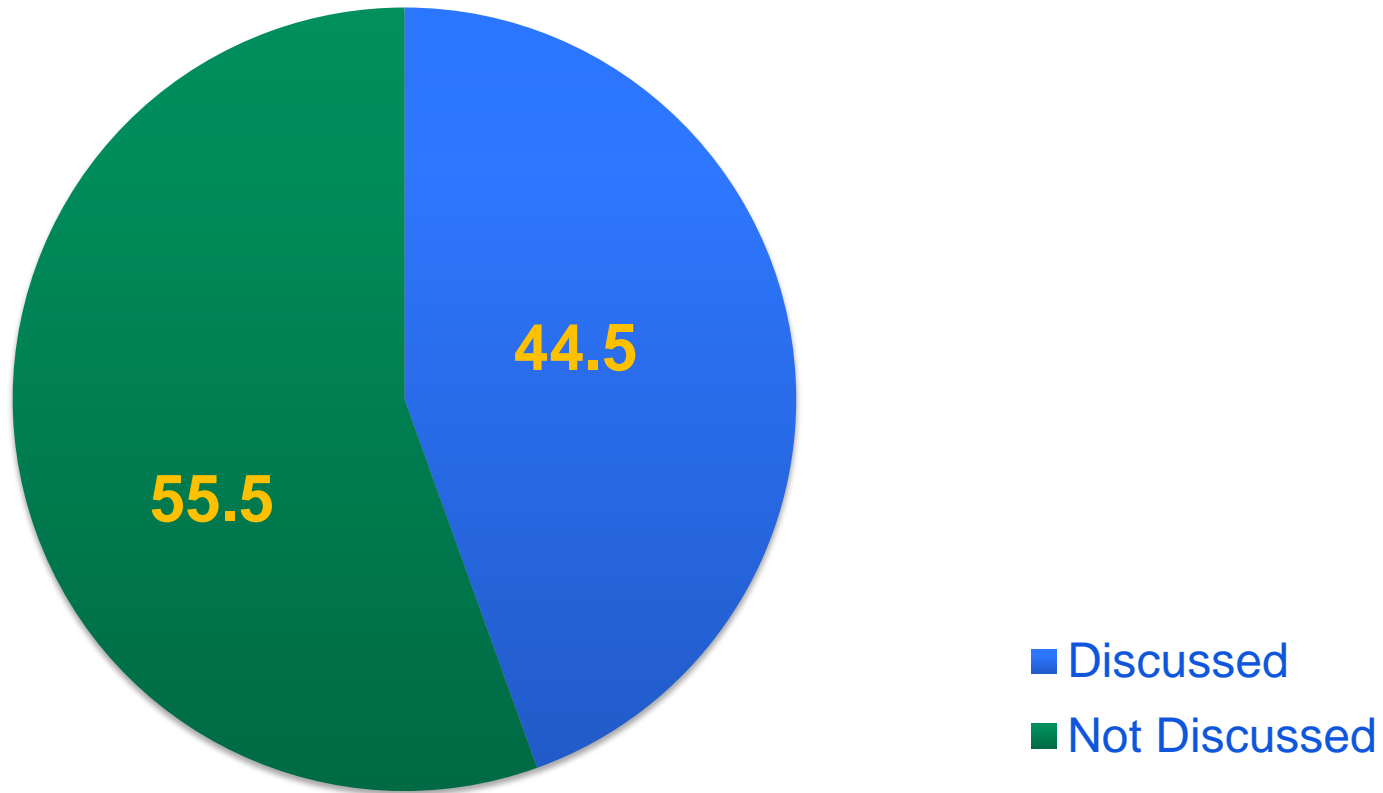
Address Driving and Safety Issues

Manage Co-Occurring Conditions

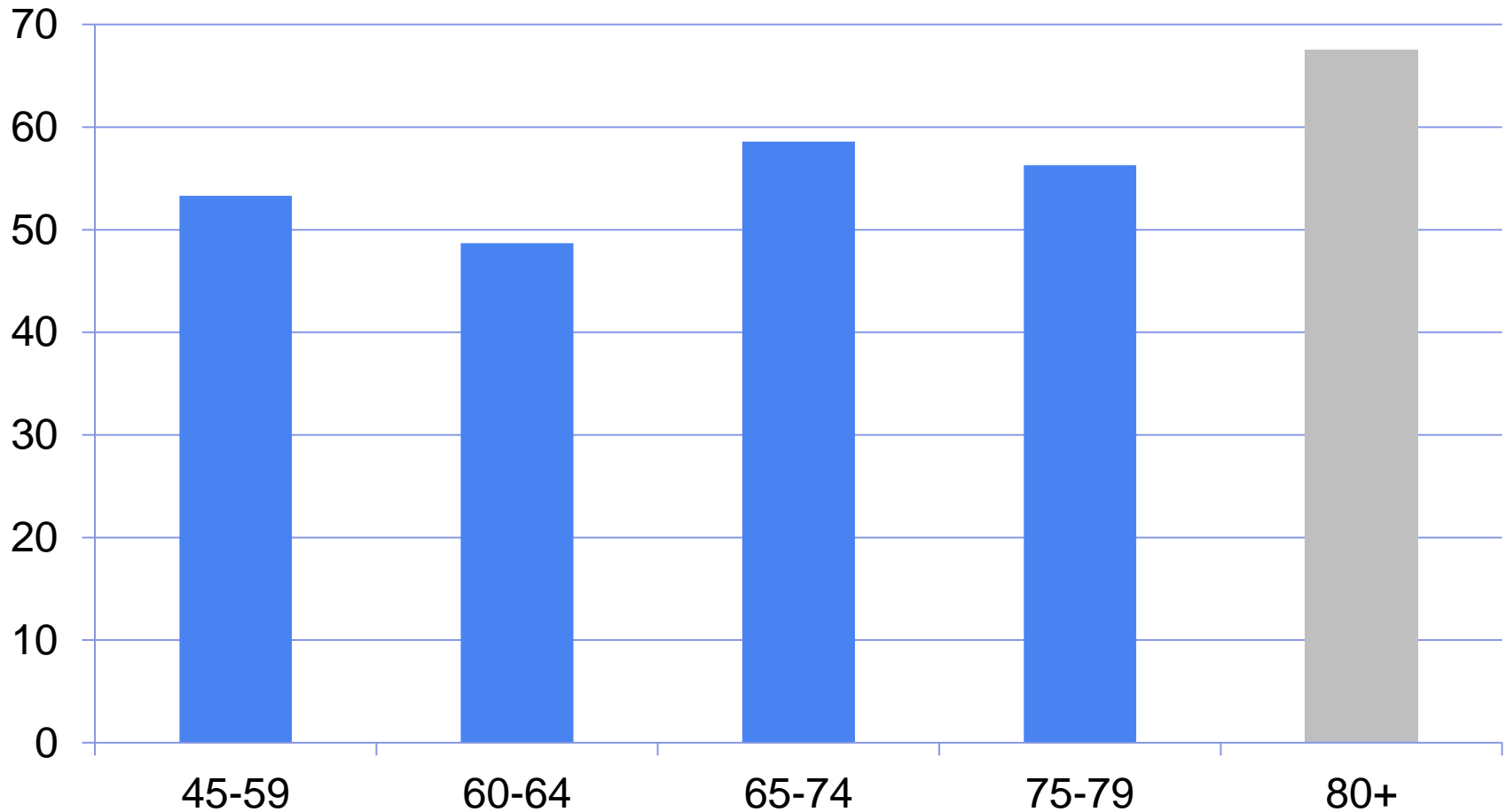
Advance Planning

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# Percent with SCD Who Talked vs. Not Talked to a Health Care Provider

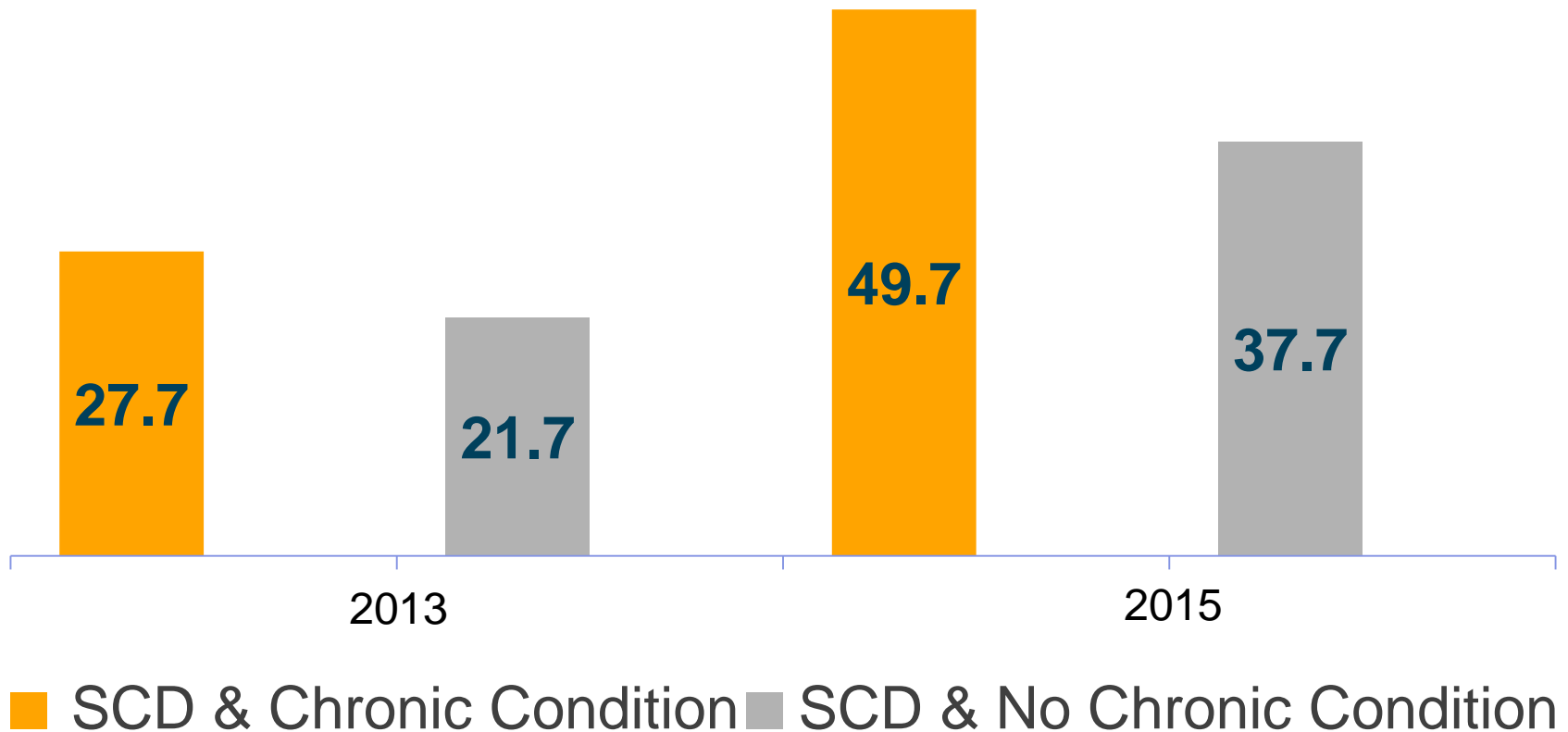


# Among People with SCD, % Who Have Not Talked to a Provider About It



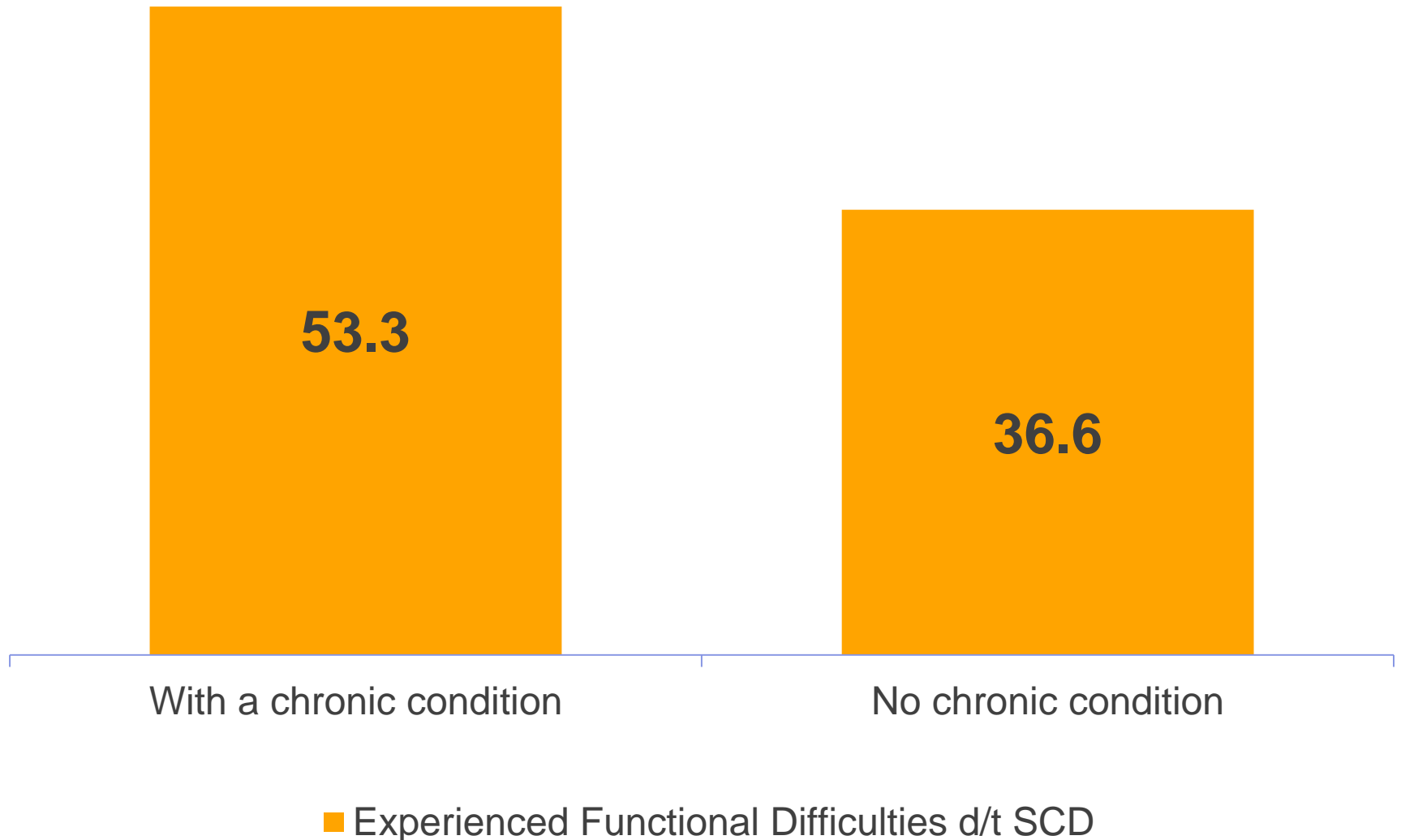
# Discussing SCD with Health Care Provider

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# SCD and Functional Difficulties and Chronic Conditions

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# Conclusions & Public Health Implications

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- **More than half** of people with SCD have one of the four chronic conditions assessed
- These conditions are **more common** among middle-aged and older adults **with SCD than among those without SCD**
  - Range: 1.4-2.4 times more common
- The majority of people with a chronic condition and SCD have **not discussed the SCD with a health care provider**
  - Missed opportunity for providers to help patients with SCD plan for managing their chronic conditions
- SCD causes **major disruptions in everyday life** for around half of those experiencing memory problems
  - May impact the ability to self-care
  - May lead to more frequent care or more costly care

# **Doubling Down: The Multiplicative Effect of Gender and Subjective Cognitive Decline on Health-related Quality of Life**

Valerie J. Edwards, Ph.D.  
William W. Thompson, Ph.D.  
Erin D. Bouldin, PhD  
Lisa C. McGuire, Ph.D.

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HEALTHY AGING PROGRAM

DIVISION OF POPULATION HEALTH

NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

CENTERS FOR DISEASE CONTROL AND PREVENTION



# Introduction



It has been routinely observed that more women than men reported poor quality of life

The effects of cognitive decline can be exacerbated by the presence of depression or other mental health problems

This study examines gender difference in health-related quality of life and subjective cognitive decline (SCD)

# Hypothesis

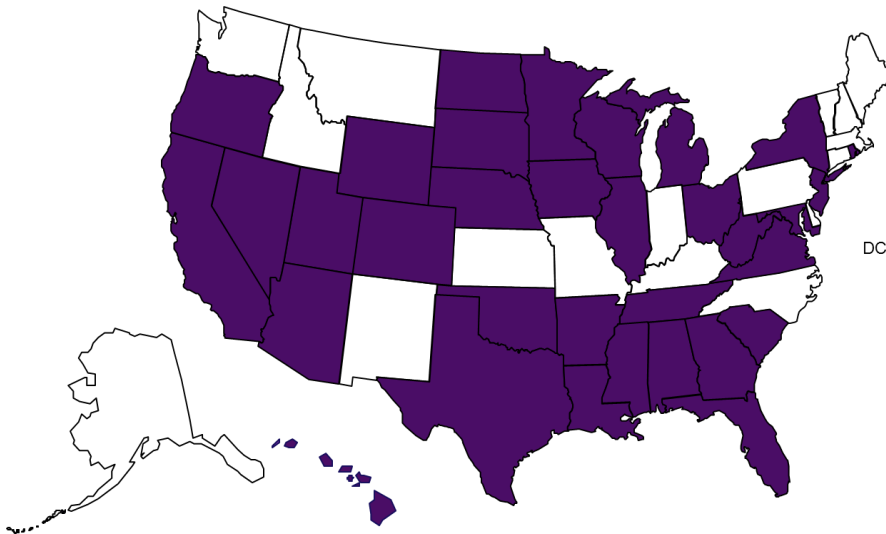
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Women would report significantly more physically or mentally unhealthy days than men among participants with SCD



# Sample

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- 2015 Behavioral Risk Factor Surveillance System (BRFSS) Cognitive Decline module was utilized for data analysis
- Optional module, 35 states and one territory (Puerto Rico) participated in 2015



# 2015 BRFSS

## Subjective Cognitive Decline Module

During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse?



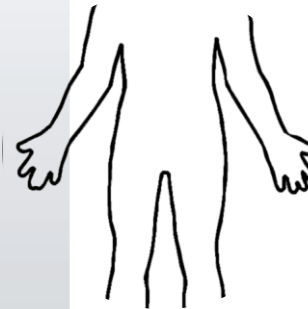
# Healthy Days Measure

## CALENDAR

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

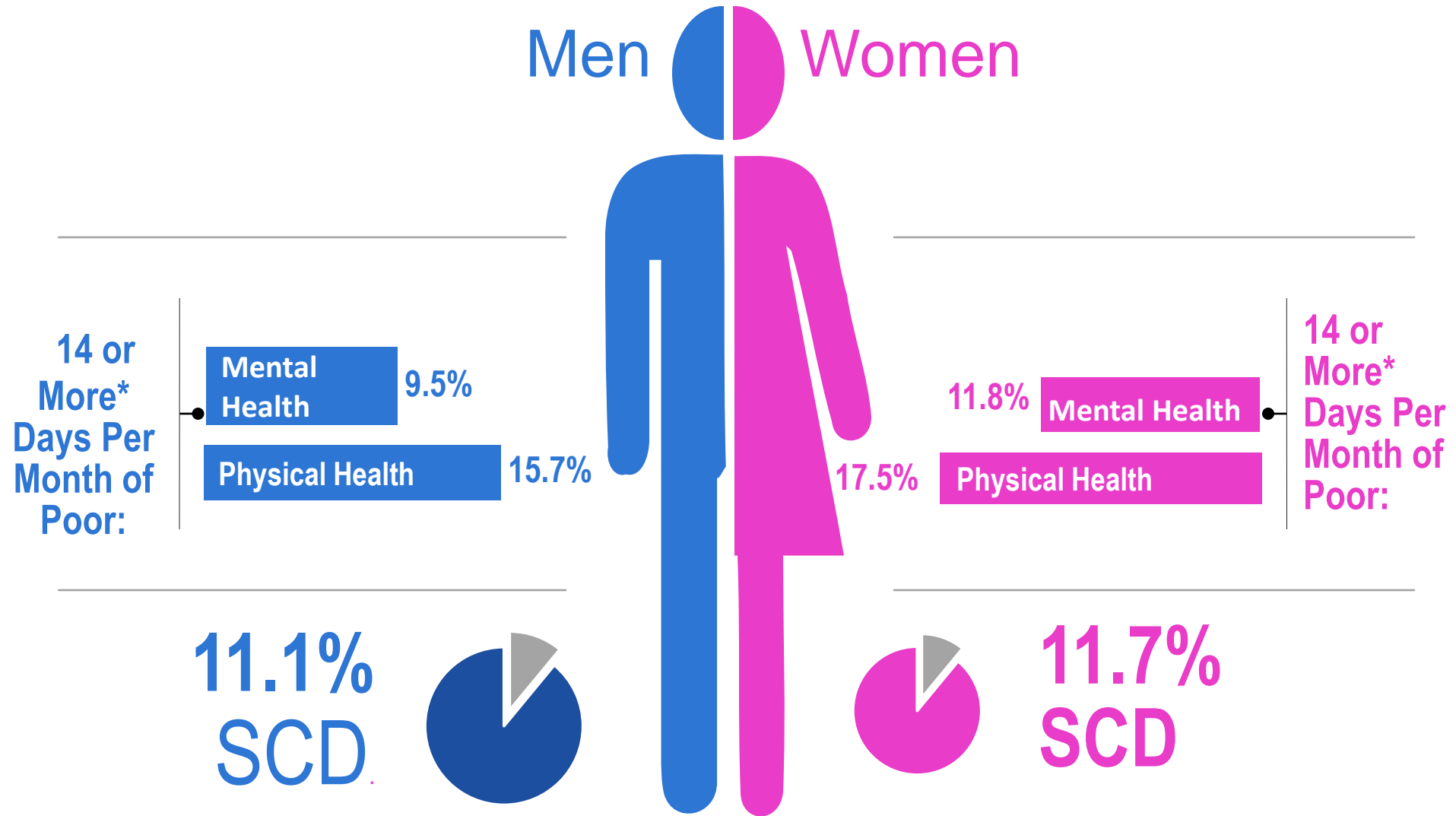


Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? (Range: 0-30)



Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good? (Range: 0-30)

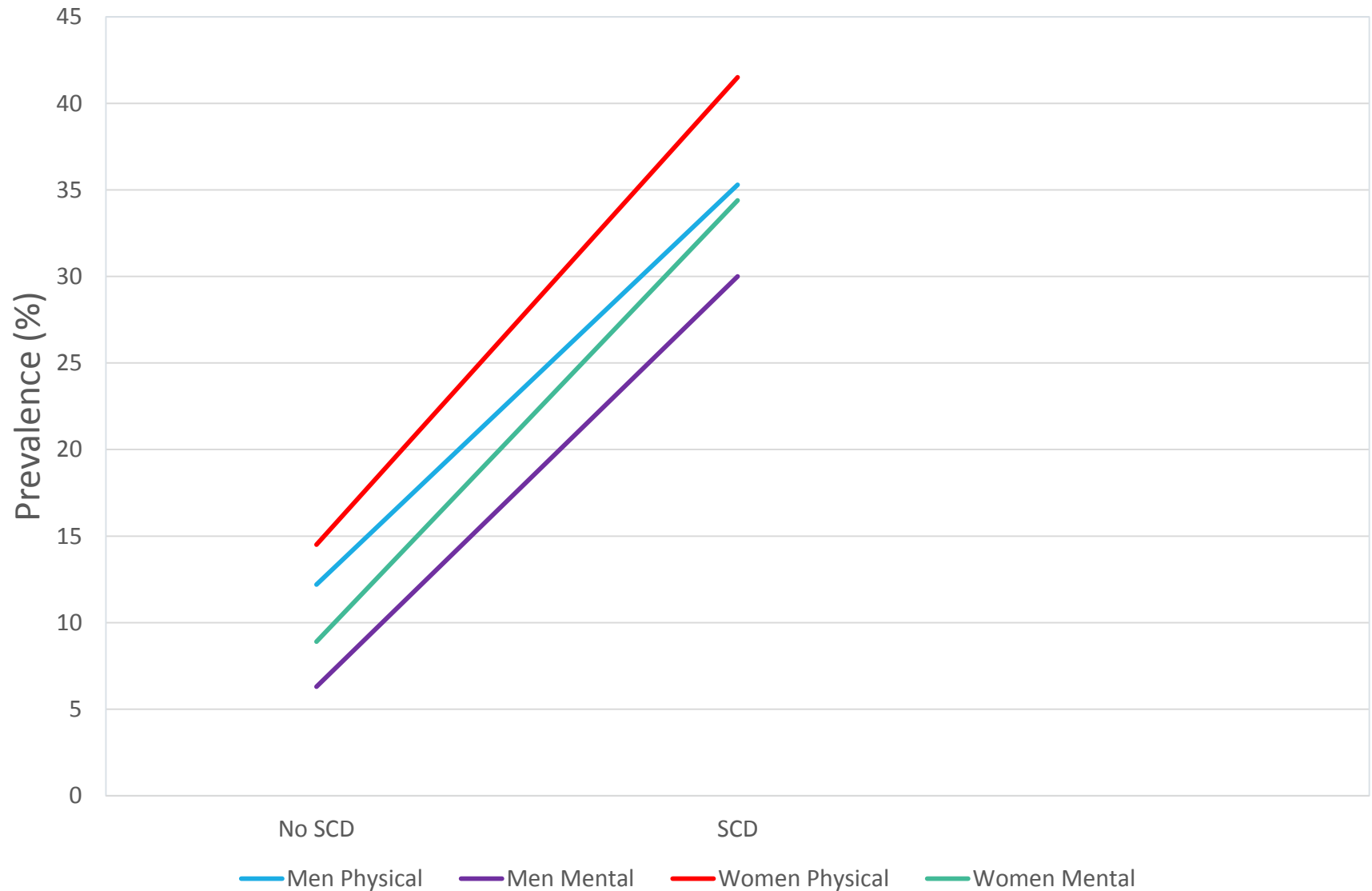
# Gender Differences in Healthy Days and SCD



\*p < 0.05



# Prevalence of 14 or more unhealthy days by SCD, Women and Men



# Healthy Days Measure

## Regression Results by Gender

### Physically Unhealthy Days

Parameter	Estimate	Std. Error	F	df	Sig (p)
Intercept	10.6	0.44	3.9	10,662	<0.0001
Women	1.2	0.6	3.9	10,662	<0.05
Men	0.0				

# Healthy Days Measure

## Regression Results by Gender

### Mentally Unhealthy Days

Parameter	Estimate	Std. Error	F	df	Sig (p)
Intercept	8.9	0.5	29.9	10,705	<.02
Women	1.6	0.6	5.9	10,705	.<.02
Men	.000				

# Discussion

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As expected, a significantly higher percentage of women than men reported 14 or more mentally and physically unhealthy days\*

The percentage of unhealthy days, both physical and mental, was significantly higher among those reporting SCD\*

Women reporting SCD also reported significantly more mentally and physically unhealthy days than men with SCD\*

\*Data are cross-sectional

# Conclusions

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The presence of SCD is associated with poorer health-related quality of life (HRQOL)

Women reporting SCD may be more sensitive to changes in cognitive functioning, resulting in poorer HRQOL

More research is needed to understand the relationship between SCD and mental states such as depression, anxiety, and HRQOL

# **Subjective Cognitive Decline (SCD) and Related Care Needs**

**Christopher A Taylor, PhD**

Epidemiologist, Alzheimer's Disease and Healthy Aging Program  
Division of Population Health  
National Center for Chronic Disease Prevention and Health Promotion  
Centers for Disease Control and Prevention

Memory Loss and the Public Health Burden: Results from the 2015 BRFSS Cognitive Module Webinar

December 14, 2016

# *Purpose*

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- The purpose is to describe the prevalence of care needs and unmet care needs of adults with subjective cognitive decline (SCD).



# Functional Difficulties

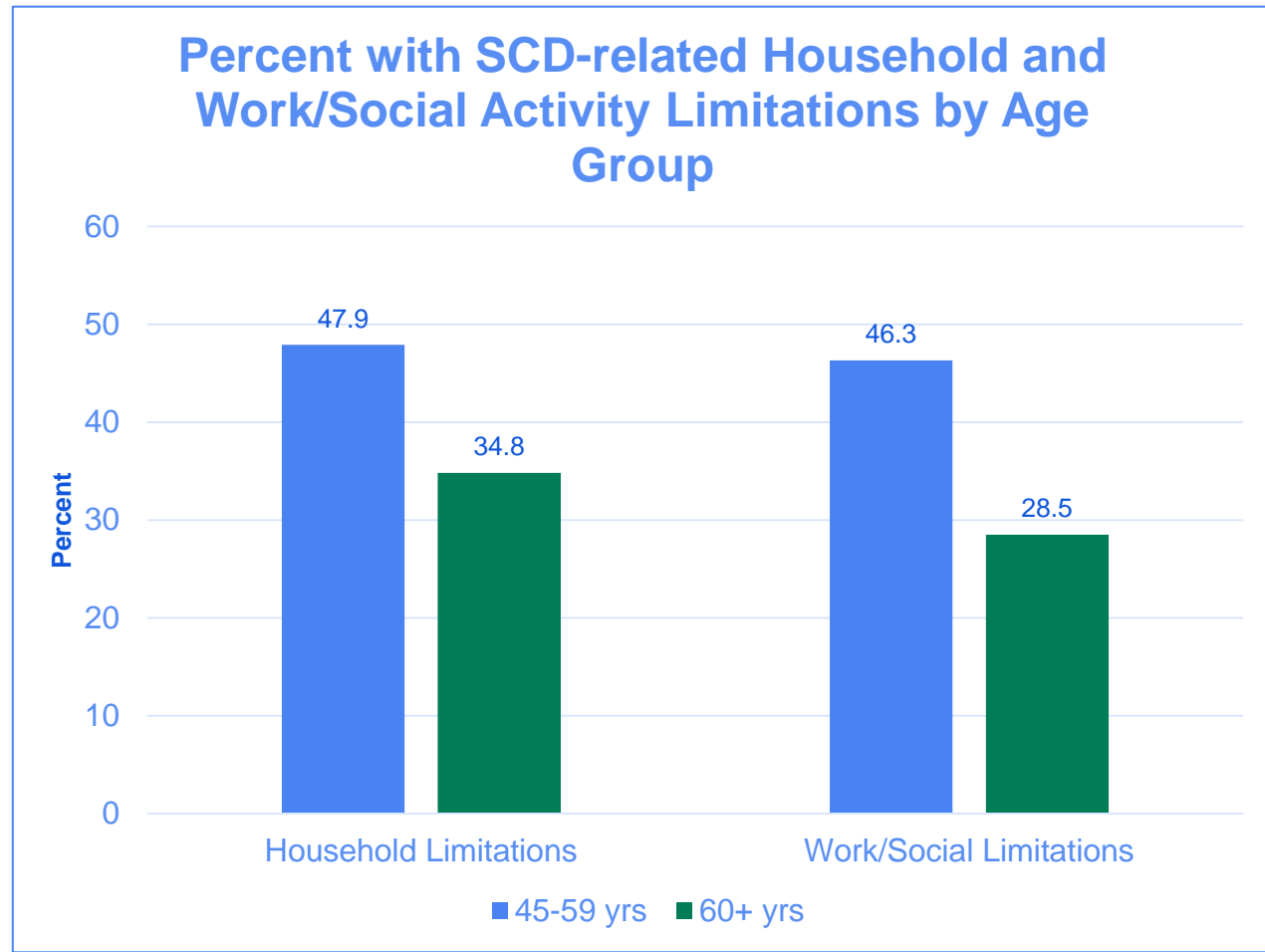
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- **Day-to-Day Limitations**
  - Due to SCD, had to give up household activities or chores
  - Such as: cooking, cleaning, taking medications, driving, or paying bills
- **Work or Social Limitations**
  - SCD has interfered with the ability to work, volunteer, or engage in social activities
- **Functional Difficulties**
  - Either day-to-day limitations and/or work and social limitations
  - May help demonstrate the burden of SCD



# 2015 Findings: *Household and Work/Social Activity Limitations*

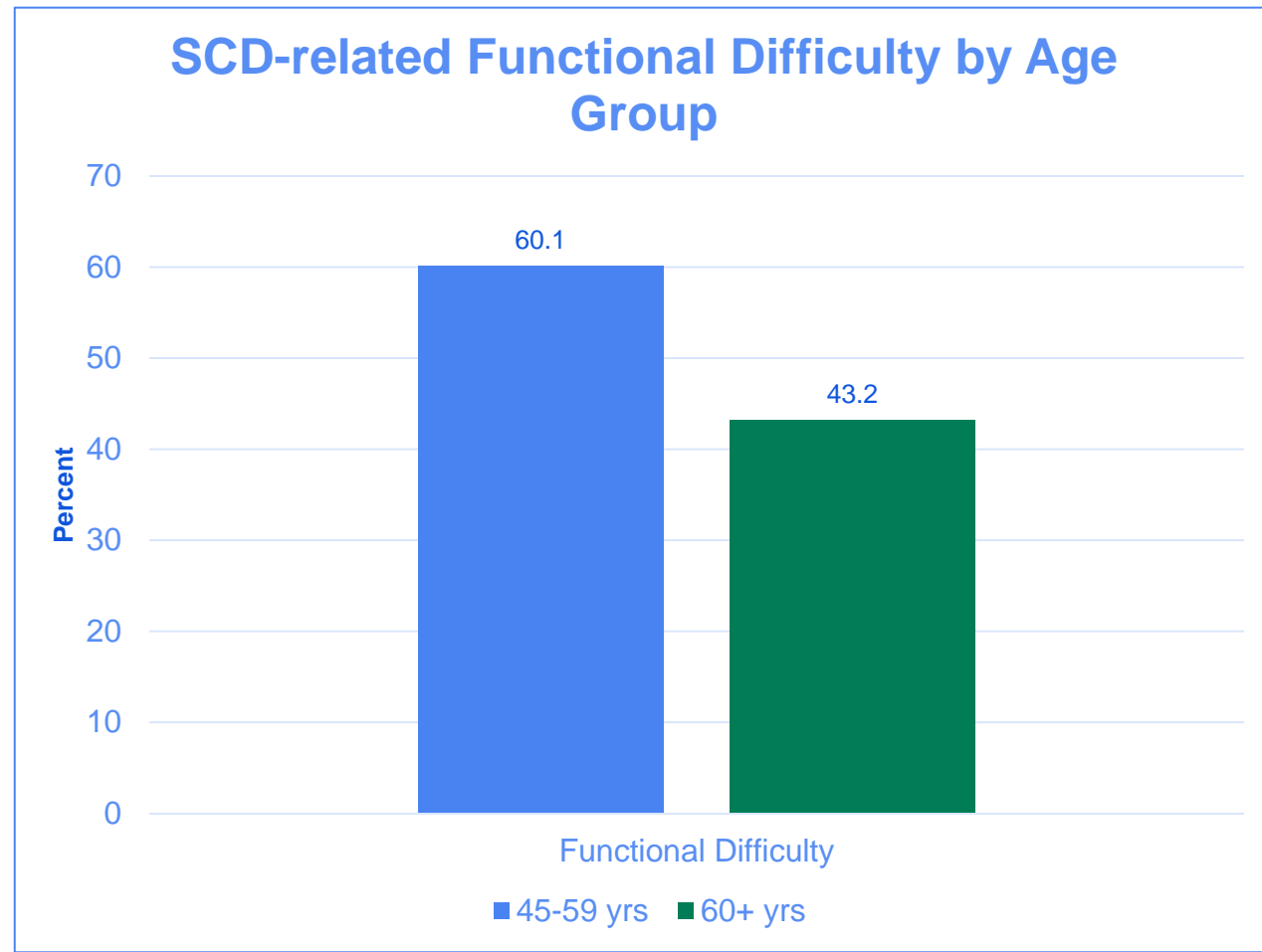
- 40.8% of adults aged  $\geq 45$  with SCD reported household activity limitations due to SCD
- 36.7% of adults aged  $\geq 45$  with SCD reported that SCD has interfered with work, volunteer, and social activities



# 2015 Findings: *Functional Difficulty*

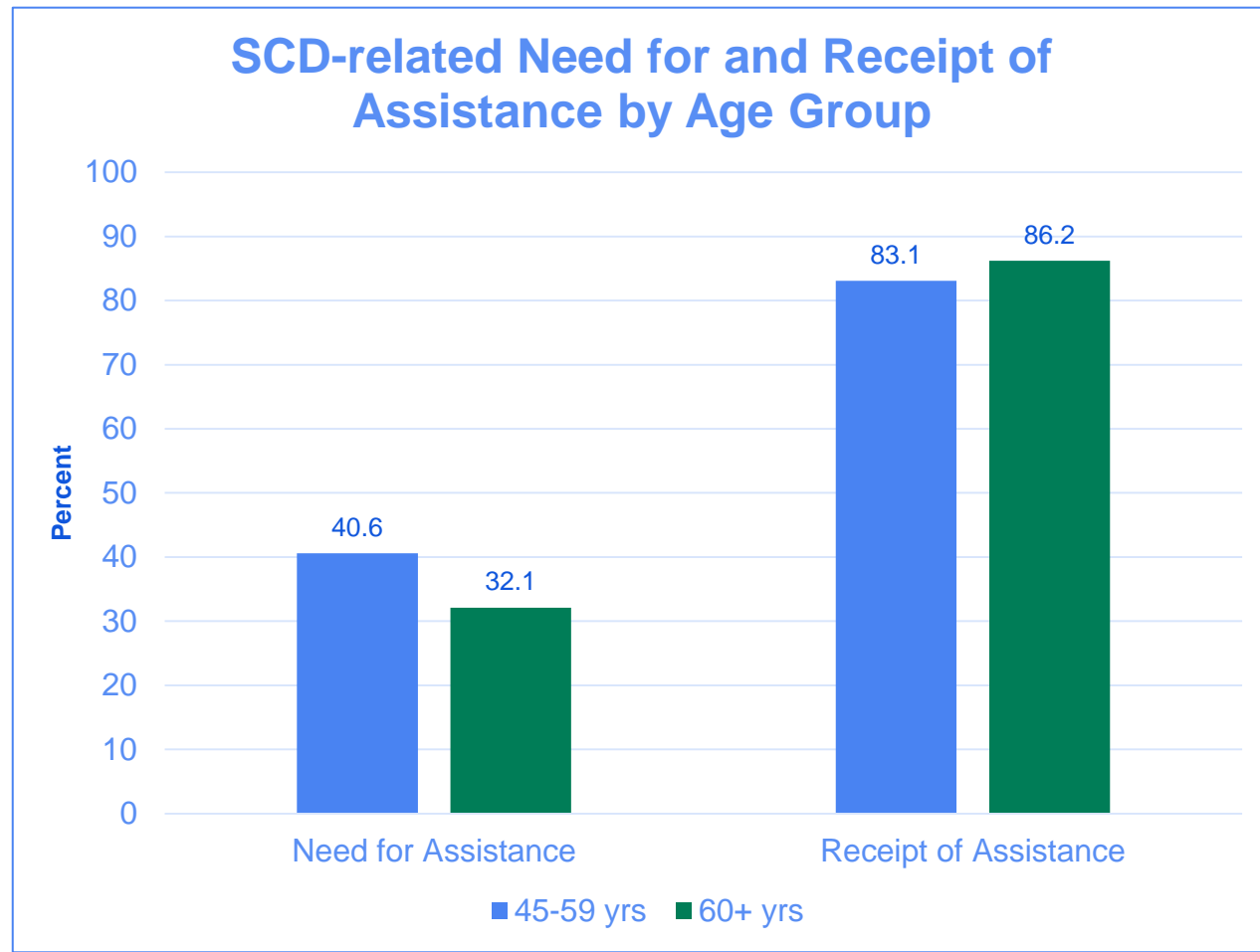
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51.0% of adults  
aged  $\geq 45$  with  
SCD report  
having functional  
difficulty



# 2015 Findings: *Need and Receipt of Assistance*

- 36.0% of adults aged  $\geq 45$  with SCD need assistance with day-to-day activities
- Of those adults  $\geq 45$  with SCD who report needing assistance, 84.6% receive the assistance they need with day-to-day activities



# *Conclusions: SCD & Limitations*

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1. 1 out of 2 people aged 45 and older with SCD report a functional limitation
2. Younger adults (45-59 years) with SCD are more likely to report a functional limitation than those aged 60 years or older
3. A higher proportion of people with SCD report household limitations rather than work/social limitations



# *Conclusions: Need and Receipt of Care*

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1. 1 out of 3 of people with SCD need assistance with day-to-day activities
2. Younger adults (45-59 years) with SCD are more likely to need assistance with day-to-day activities than those aged 60 years or older
3. The majority (84.5%) of needed assistance with day-to-day activities is provided for those with SCD



# *Public Health Implications*

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- Need for caregivers
- Limitations can increase social isolation
- Can disrupt ability to self-care which might lead to poor health outcomes

# Cognitive Decline in Colorado - analysis plan

Sallie Thoreson

Colorado Department of Public  
Health and Environment



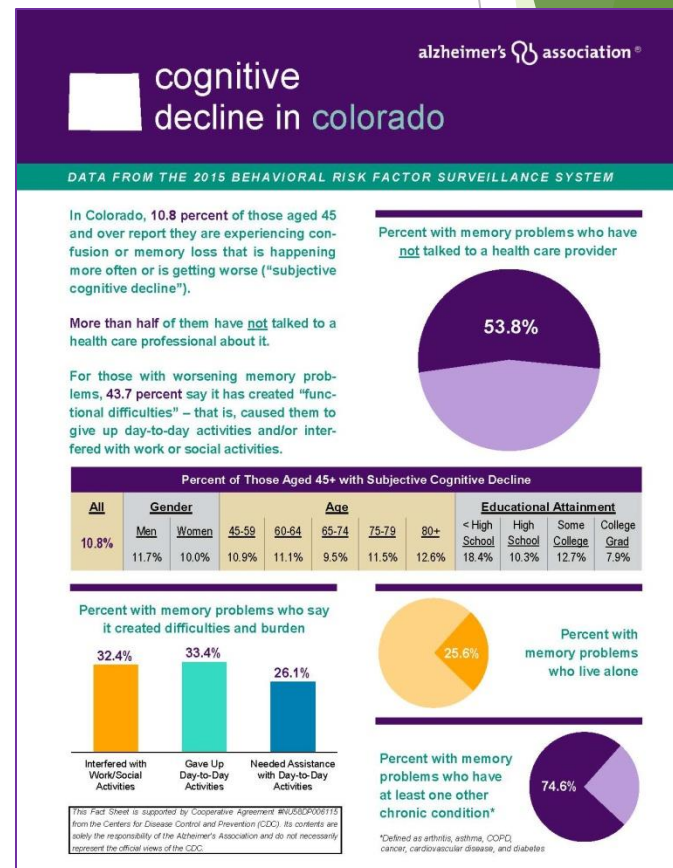
**COLORADO**  
Department of Public  
Health & Environment



## Strategic Action Planning Group on Aging

Initial Strategic Action Plan on Aging for Colorado  
November 29, 2016

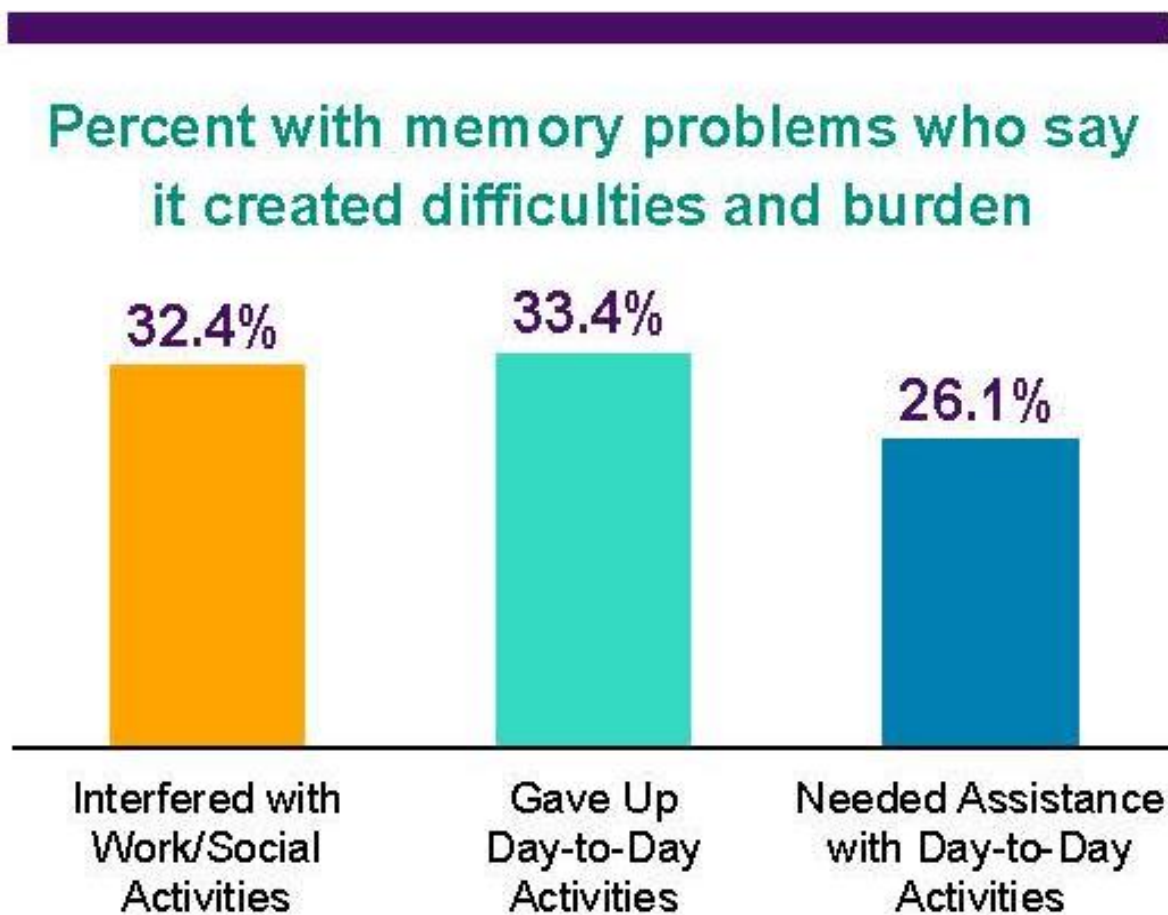
[www.colorado.gov/pacific/sites/default/files/SAPGA-Nov-2016-Strategic-Plan.pdf](http://www.colorado.gov/pacific/sites/default/files/SAPGA-Nov-2016-Strategic-Plan.pdf)





# Cognitive decline in Colorado

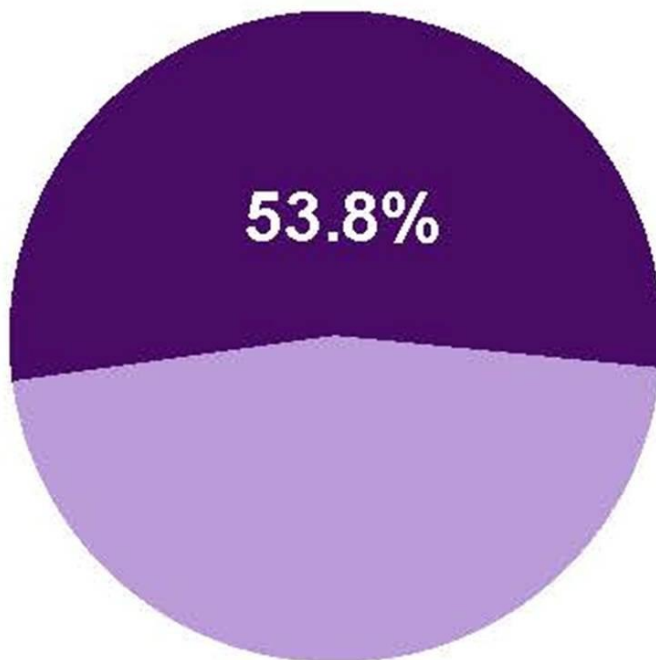
## - analysis plans



# Cognitive decline in Colorado - analysis plans

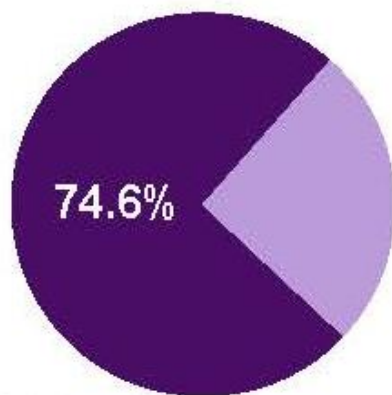
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Percent with memory problems who have  
not talked to a health care provider



# Cognitive decline in Colorado - analysis plans

Percent with memory problems who have at least one other chronic condition\*



*\*Defined as arthritis, asthma, COPD, cancer, cardiovascular disease, and diabetes*

## Among those with SCD

Condition	% with chronic conditions
CVD	23.9 %
Asthma	15.2 %
Pulm disease	16.4 %
Arthritis	60.0 %
Diabetes	16.5 %
Depression	50.4 %

# Data for Action

alzheimer's association®

factsheet

OCTOBER 2016alz.org

Cognitive Data from the 2015 BRFSS

One in nine people aged 45 and older report facing confusion or memory loss that is happening more often or is getting worse ("subjective cognitive decline").

- Data from 33 states and the District of Columbia show that 11.6 percent of Americans aged 45 and over have subjective cognitive decline.
- African Americans are 21 percent more likely than whites to have subjective cognitive decline.
- Individuals with lower levels of education are more likely to have subjective cognitive decline. Of those who did not graduate from high school, 18.6 percent have subjective cognitive decline compared with 7.4 percent of college graduates.
- Among those with subjective cognitive decline, 29.2 percent live alone, and 24.2 percent have a household income of less than \$15,000.

Subjective Cognitive Decline  
Those Aged 45 and Older  
By Education Level

Less Than High School	18.6%
High School Grad	12.1%

What is the BRFSS?

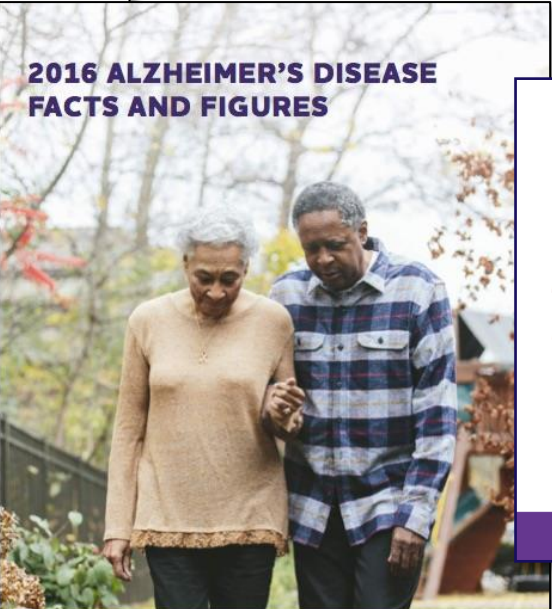
The Behavioral Risk Factor Surveillance System (BRFSS) is a public health survey conducted each year by all states, in coordination with the Centers for Disease Control and Prevention (CDC).

The data presented here come from the 2015 BRFSS Cognitive Module – a series of six questions that ask about memory problems, the burden of cognitive decline, and whether memory problems have been discussed with a health care professional. All data were analyzed by the CDC's Healthy Aging Program.

People with subjective cognitive decline often have additional health conditions, including:

- Eighty percent of those with subjective cognitive decline have at least one chronic condition (arthritis, asthma, cancer, COPD, and/or diabetes).
- Over half say that, in the last month, they have poor health.
- Of those individuals with subjective cognitive decline, 39.4 percent reported poor health in the last month.

2016 ALZHEIMER'S DISEASE  
FACTS AND FIGURES



Includes a Special Report on  
the Personal Financial Impact  
of Alzheimer's on Families

alzheimer's association®  
THE BRAINS BEHIND SAVING YOURS.™

## How Increasing Memory Problems Impact Daily Life -- Recent CDC Findings from the 2015 BRFSS Cognitive Module

Dec. 14, 2016 Webinar

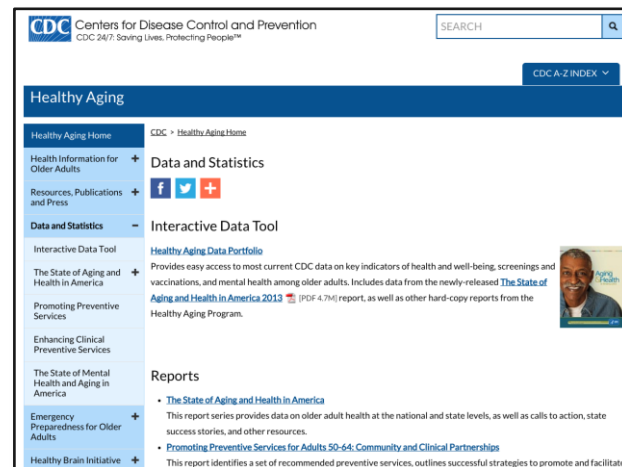


alzheimer's association®

# Learn More, Get Data

## BRFSS

<http://www.cdc.gov/brfss/>



## CDC Alzheimer's Disease and Healthy Aging Program

<http://www.cdc.gov/aging/healthybrain/surveillance.htm>

## Healthy Aging Data Portfolio (CDC)

[http://nccd.cdc.gov/DPH\\_Aging/default.aspx](http://nccd.cdc.gov/DPH_Aging/default.aspx)

# <http://alz.org/publichealth/data-collection.asp>

- State fact sheets, aggregated reports
- Cognitive Module: 2015 and prior years
- Caregiver Module

The screenshot displays the Alzheimer's Association website. At the top, the logo "alz.org® | alzheimer's association" is visible. Below the logo is a navigation bar with links: "About Us", "eNewsletter", "Message Boards", "Action Center", "Advocate", "Walk to End Alzheimer's", "Shop", and "Donate". A search bar with a "Submit" button is on the right. Below the navigation bar, a "24/7 Helpline: 1.800.272.3900" is displayed. A "Find your chapter:" section includes a "ZIP" input field, a "GO" button, and a "search by state" link. A secondary navigation bar contains links: "In My Area", "Alzheimer's & Dementia", "Life with ALZ", "Research", "Professionals" (highlighted), "We Can Help", and "Join the Cause". Below this, a breadcrumb trail reads "Home > Professionals > Public Health > Data Collection". The main heading is "Public Health Alzheimer's Resource Center" with the URL "alz.org | publichealth" to its right. A sidebar on the left lists topics: "Public Health Home", "What You Need to Know", "Road Map", "Data Collection" (highlighted), "Healthy People 2020", "Early Detection", and "Education". Below the sidebar is a "Public Health News" section with the text "Stay up-to-date with the latest in". The main content area features a "Now Available: 2015 BRFSS Cognitive Data" section. It includes a map of the United States with some states highlighted in purple. To the right of the map, text states: "One in nine Americans aged 45 and older are experiencing confusion or memory loss that is happening more often or is getting worse, but 56 percent have not talked to a health care professional about their worsening memory problems, according to data from the 2015 BRFSS survey in 33 states and DC. Learn more about the data, including state-specific results." Below this text is a link: "Learn more about the data, including state-specific results." At the bottom of the page, a paragraph reads: "Surveillance is an essential function of public health. It involves collecting data to better understand the extent of a problem and its impact, and to motivate policy makers to address the problem. Each year, every state".

# Questions??

Alzheimer's and Public Health (incl. BRFSS data):  
[alz.org/publichealth](http://alz.org/publichealth)

Alzheimer's Disease (incl. local chapters):  
[alz.org](http://alz.org)

CDC Alzheimer's Disease and Healthy Aging Program  
<http://www.cdc.gov/aging>

Questions or More Info:  
Molly French  
[mfrench@alz.org](mailto:mfrench@alz.org) 202.638.8674